Edgewood Area - Aberdeen Proving Ground, Maryland 21010-5424
U.S. Army Soldier and Biological Chemical Command

Real Time Analytical Platform (RTAP)

FEATURES:

- Ford van with two 7-kW gasoline powered generators
- Gas Chromatography using the Flame Photometric Detector (GC/FPD)
- Hydrogen, nitrogen, and pure air generators
- Flammable chemical solvent storage cabinet
- 25-gallon fresh water holding tank and a 25-gallon waste water tank
- Chemical resistant instrument bench, and a stainless steel wet chemistry bench with a stainless steel sink
- Chemical fume hood

The RTAP is a fully functional analysis vehicle that will automatically sample and analyze ambient air to detect the presence of nerve and mustard agents. The laboratory is able to perform on-site analysis and verify the results for many military chemicals and compounds of interest such as those containing sulfur and phosphorous. RTAP can support large numbers of inspection teams on a site simultaneously. It can provide support during the rapid clearing of storage sites, execute verification analysis should an alarm sound, and concurrently perform environmental monitoring.

The unit is housed in a Ford van with two 7-kW gasoline powered generators. These generators power the heat, ventilation, and air conditioning systems for environmental control, as well as the laboratory and analytical equipment, refrigerator, and lights. The laboratory is equipped with hydrogen, nitrogen, and pure air generators to eliminate the need for compressed gas cylinders. The unit has a 25-gallon fresh water-holding tank and a 25-gallon wastewater tank.

The laboratory is capable of 24-hour operations to analyze for known and unknown compounds found in soil and the air, and rapidly verify and confirm the results on-site in approximately one hour. It is equipped with a Gas Chromatograph that has limitless reprogramming capability of analytical parameters. It detects compounds, and can isolate and identify unknowns with few false-positive alarms. The Gas Chromatograph can detect gas agents, including mustard and saran. The RTAP has performed multiple agent analysis from a single sample, and also analysis of sulfur and phosphorous from a single injection for validation purposes. It can desorb existing Depot Area Air Monitoring System (DAAMS) tubes, which collect concentrated samples of air and monitor them in a field environment to provide near real-time analytical results (5-15 minutes). All generated data can be stored, retrieved, and manipulated electronically by the Gas Chromatograph.

Practical uses of the RTAP involve monitoring for sulfur containing compounds like pesticide; monitoring food and other items arriving in the United States from abroad for contamination; running DAAMS tubes for university laboratories that are required to monitor the agent in their labs; and in treaty inspections.

For additional information, please E-mail cbservices@sbccom.apgea.army.mil.

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